

WHAT IS CLAIMED IS:

1. A pickup device comprising:

a first light source adopted to output a first laser beam;

a second light source adopted to output a second laser beam

5 having a band of longer wave-length than the first laser beam;

a rising mirror adopted to reflect the first laser beam and the  
second laser beam; and

an objective lens adopted to condense the first laser beam and  
the second laser beam reflected by the rising mirror onto an  
10 information recording medium,

wherein the rising mirror comprises a first mirror and a second  
mirror respectively provided on both faces of a transparent substrate,

wherein the first mirror reflects the first laser beam, and  
transmits the second laser beam,

15 wherein the second mirror reflects the second laser beam,

wherein the rising mirror is arranged in a manner that the first  
mirror faces the objective lens.

2. The pickup device as claimed in claim 1, wherein the first light  
source outputs the first laser beam having a wave-length band of  
20 approximately 405 nm, wherein the second light source outputs the  
second laser beam having a wave-length band of approximately 650 nm.

3. The pickup device as claimed in claim 1, wherein the first light  
source outputs the first laser beam having a wave-length band of  
approximately 650 nm, wherein the second light source outputs the  
25 second laser beam having a wave-length band of approximately 780 nm.

4. The pickup device as claimed in claim 1, wherein a center of a luminous flux of the first laser beam incident to the rising mirror is shifted in direction toward the objective lens from a center of a luminous flux of the second laser beam incident to the rising mirror.

5 5. The pickup device as claimed in claim 1, wherein the first mirror comprises a dichroic mirror.

6. The pickup device as claimed in claim 1, wherein the second mirror comprises a hologram mirror having a hologram pattern formed thereto.

10 7. The pickup device as claimed in claim 6, wherein the hologram pattern is formed in a pattern having a diffracting function adapted to correct aberration that is caused by the objective lens in the process of recording and playing back the information recording medium by use of the first laser beam.

15 8. The pickup device as claimed in claim 7, wherein the hologram pattern is formed in a pattern having a diffracting function adapted to correct aberration that is caused by the objective lens in the process of recording and playing back DVD.

9. The pickup device as claimed in claim 6, wherein the hologram mirror is made of at least one of glass and plastic.

10. The pickup device as claimed in claim 6, wherein the hologram pattern of the hologram mirror is limited within an opening size appropriate for playing back the information recording medium by use of the first laser beam, and

25 wherein in a region of the hologram mirror except for a region

in which the hologram pattern is formed, a hologram pattern is formed in a pattern not contributing to the condensation of the laser beam by the objective lens.

11. The pickup device as claimed in claim 10, wherein the hologram  
5 pattern of the hologram mirror is limited within an opening size appropriate for playing back DVD.

12. The pickup device as claimed in claim 6, wherein the hologram pattern has a profile of saw-toothed shape.

13. The pickup device as claimed in claim 1, wherein the second  
10 mirror comprises an aspherical mirror having an aspherical profile.

14. The pickup device as claimed in claim 13, wherein the aspherical mirror is formed into an aspherical profile by which aberration caused by the objective lens is corrected when information is recorded on and played back from the information recording medium.

15. 15. The pickup device as claimed in claim 13, wherein the aspherical  
mirror is made of at least one of glass and plastic.

16. The pickup device as claimed in claim 1, wherein the objective lens and the rising mirror are arranged being integrated into one body with a movable section of a biaxial actuator.

20 17. The pickup device as claimed in claim 16, wherein a tracking direction of the biaxial actuator and a direction of the luminous flux of the first and the second laser beam incident on the rising mirror substantially coincide with each other.